

DESCRIPTIONS OF NEW *SATURNIIDAE*.

By K. JORDAN, Ph.D.

1. *Rothschildia amoena* spec. nov.

♂ ♀. Near *R. jorulloides* Dogn. (1895) and *maurus* Burm. (1880); abdomen as in those species without white line on upperside. Both wings shorter and broader than in the allied species. The discal line dentate as in *R. jorulloides*, that of the forewing both in the new species and *jorulloides* being less dentate from the vitreous patch to the costa than in *maurus*, and in the new species more curved basad anteriorly and posteriorly than even in *jorulloides*; the band accompanying the white discal line is grey, there being only a narrow reddish line alongside the white one. The white oblique subapical line SC^5-R^1 of the forewing shorter than in the allied species, presumably owing to the less produced apex of the wing, median branches buffish in the central area; vitreous spot triangular, all three sides distinctly incurved, the costal side least, the black border of the spot distinct; marginal area of both wings similarly marked and coloured as in *jorulloides*. Vitreous spot of hindwing with the black border more distinct than in the allied species, anterior and posterior sides slightly incurved, proximal side incurved in ♂, convex in ♀, veins slightly buff; the central area bounded by the antemedian and discal lines broader than the outer area from the discal line to the margin, the measurements from the antemedian line across the tip of the vitreous patch to the apex of the second radial vein being: central area 20 mm. and outer area 17 mm.

These distinctions are repeated on the *underside*.

Hab. Matucana and Surco, Oroya railway, 7000 to 8000 ft., West Peru.

The Rev. A. Miles Moss bred a number of specimens of this insect. The description and figure of the larva will be given in another place.

2. *Rothschildia maurus lutea* subsp. nov.

♀. The entire insect clay-colour as regards the ground. The discal line less dentate than in *R. m. maurus*, on the forewing anteriorly hardly at all dentate and here distinctly curved basad, the extreme tip, however, as in *maurus*, pointing obliquely distad; grey scaling outside discal line more extended on both wings and much more produced distad at the veins; the vitreous patch of both wings extended into the discal line, on the forewing its proximal edge anteriorly slightly incurved and then convex, on the hindwing irregularly ovate, as in specimens of *maurus* with exceptionally large vitreous patches; the black border of the lines and vitreous spots more distinct than in *m. maurus*, owing to the pale ground-colour; the outer border of the white discal line very slightly pinkish, less so than in *m. maurus*.

On *underside* duller and paler than on upper, the ground being olivaceous cinnamon in the basal half and buffish wood-brown in the outer area.

Length of forewing: 75 mm.

Hab. Sapucay, near Villa Rica, Paraguay, January 21, 1905 (W. Foster); 1 ♀.

Another ♀, from Jundiahy, near Rio de Janeiro (F. Dittrich), closely agrees with the preceding except in being much smaller (length of forewing 65 mm.) and

slightly more shaded with fuscous, in the vitreous spots being shorter (although they invade the discal line), and the one on the forewing having the proximal side distinctly incurved.

The specimens recall by their luteous coloration *R. arethusa* Walk. (1855), which we know from Eastern Brazil, Paragnay, and the Chaco of Argentina, and as a special race from the middle Amazons.

3. *Rothschildia arethusa rhodina* subsp. nov.

♂ ♀. Differs from *R. a. arethusa* Walk. (1855) in the discal line of the forewing being more deeply incurved between costa and vitreous patch, and in the white and brown scaling between the discal line and the margin being more extended on both wings above as well as beneath. Moreover, the hindwing is, between the apex and lower radial vein, distinctly incurved in the ♂ and only feebly rounded in the ♀.

Hab. Obidos, Amazons, July—August 1907 (F. Santos) : one pair.

While in *R. maurus* the black spot below the apex of the forewing is large and is accompanied by two small narrow spots, usually joined together so as to form a half-moon, the black spot is small, triangular, acutely pointed in *R. arethusa*, and is accompanied by two spots which are black shaded with buff and are larger than the black triangle, being about the size of the buff submarginal spots below them.

4. *Samia lunula fulva* subsp. nov.

♂ ♀. A most remarkable race of *S. lunula* Walk. (1855). Body and wings dark tawny-ochraceous. Collar and legs without white, with the exception of the inside of the femora and a minute tuft at the knee-joints. Abdomen with well-separated rows of small greyish white tufts as in *S. cythia* Drury (1773).

Wings, upperside. Antemedian line of forewing more or less shaded with black, sharply edged with black both on the proximal and distal sides, continued along the median nervules to discal line; the latter purer white than the antemedian one, narrow, sharply defined, on the whole thinner than its sharply-defined black proximal border; at outside of the discal line a narrow fuscous band, slightly tinged with pink and not bearing a pink or fuscous line as in *S. lunula*; disc tawny-ochraceous, irrorated with fuscous; costal area shaded with grey and pink between discal line and apex; the submarginal line separates a yellowish buff band from the more or less olivaceous margin; discocellular half-moon as in *S. lunula*, except that its black anterior edge is more prominent.—The same differences obtain in the hindwing, with the exception of the discal shadowy band which borders the discal line bearing a vestigial pinkish fuscous hue.

Underside duller than upper, being less bright ochraceous-tawny; discal band with a more or less distinct pinkish line, which is best developed on the hindwing.

Length of forewing: 68 to 70 mm.

Hab. Port Blair, Andamans: 1 ♂ and 4 ♀ ♀.

5. *Actias selene callandra* subsp. nov.

♂. Body and wings uniformly maize-yellow. Eye-spots smaller than in *A. s. selene* Hübn. (1896?), the part outside the transparent discocellular bar paler yellow than the wing, the proximal dark half-moon bordered with pink at the transparent bar. Subbasal and discal lines blackish olive, sharply marked, a second discal line sometimes faintly indicated. Lines of hindwing also blackish olive, less

prominent than on forewing. Tail shaded with pink as in *selene*. Eye-spots of underside pale pink.

♀. Colour as in *selene*, but tail with just the faintest trace of pink. Eye-spots smaller, the discal line thicker, the outer margin of the forewing more convex and the apex more obtuse.

Hab. Port Blair, Andamans; ♂♂ and 4 ♀♀.

6. *Rinaca zuleika orites* subsp. nov.

♂♀. Differs from *R. z. zuleika* Hope (1843), which occurs in Silhet and the Khasia and Naga Hills, especially in the shape of the eye-spots. On both wings the second line from margin composed of much thinner curved bars. The discocellular reniform spot of forewing longer and narrower; the corresponding spot on hindwing likewise incurved on distal side, being longer transversely to the veins than in the basi-distal direction, while this eye-spot is rounded in *z. zuleika* and longest basi-distally. Moreover, the discocellular bluish white curved bar situated in the eye-spot is narrower in the new form than in *z. zuleika*.

Hab. Sikkim; a long series of both sexes.

This is the form commonly found in collections as *R. zuleika*, while true *zuleika* is rarer, at any rate in museums.

7. *Loepa anthera* sp. nov.

♂♀. Closely allied to *L. oberthuri* Leech (1890). Body and wings deep chrome-yellow; tarsi vinous red like underside of femora and of tibiae, ringed with black. Eye-spots incurved on distal side. SC¹ of forewing from cell (♀) or from angle of cell (♂).

Wings, *above*, similar in markings to those of *L. oberthuri*; forewing suffused with vinous red from base and hindmargin to M¹ and beyond the postdiscal double line, a deeper tint in between these lines and along their outside, following the curves of the lines and extending forward to near the black subapical spot; discal line less deeply zigzag than in *oberthuri*, anteriorly curving costad as in that species, but being here placed nearer to the postdiscal double line than to the ocellus; postdiscal double line a little thicker than the discal line, being posteriorly shaped as in *oberthuri*, but anteriorly remaining double to costal margin, the outer one of the double line almost evenly curved between the veins from M² to R¹ and edged with a white line between SU⁵ and costal margin; a white submarginal line, continuous, incurved between the veins (in *miranda*, *katinka*, etc., the bars representing the line are excurved), no fuscous spots along this line, as is the case in *katinka* and allies; black subapical spot hardly larger than in *sikkima*, smaller than the chrome-yellow interspace which separates it from the postdiscal double line, a slight indication of a second black spot below R¹; in front of black spot a white line, outside which the ground is yellowish ochraceous, not red as in *sikkima*, *katinka*, etc.—Hindwing: abdominal area not suffused with red, except at inner side of antemedian line; discal line less deeply zigzag than in *oberthuri*, inner postdiscal line less dentate; white submarginal line regularly undulate, as in *oberthuri*, being incurved between the veins and excurved across them.

Underside: ocellus on both wings reduced to a narrow half-moon which is deep vinaceous, 3 to 4 mm. wide, its proximal edge reddish brown, followed by a white line, a central line black edged with whitish on outside, along outer edge of

ocellus a thin white line; interspace between the postdiscal lines pinkish fawn, except anteriorly, this colour extending on forewing across the outer line in between the veins in the shape of a rectangular spot; on hindwing the outer line edged with white.

Tenth tergite of ♂ deeply cleft, the lobes slightly divergent, not lying close together as in *L. katinka* and *sikkima*.

Length of forewing: 64 to 66 mm.

Hab. One pair: ♂ from Tonkin, *type* (received from Monsieur H. Donckior), and ♀ from Digboi, North-Eastern Assam (L. Brunt).

8. *Loepa katinka megacore* subsp. nov.

♂ ♀. On an average larger than Indian specimens, and brighter yellow. The subbasal line of the forewing above black, rarely partly red, not edged with red on proximal side or the red colour much reduced; black inner ring of eye-spot thicker on proximal side than in *katinka* from North India; apex a little less red both above and beneath; subbasal and postdiscal line of hindwing above not red at abdominal margin.

Hab. Padang Bovenlanden, West Sumatra; a long series.

Saturniodes gen. nov.

♂. Very close to *Sagana* Walk. (1855) and *Copaxa* Walk. (1855), especially the latter. Branches of the antenna longer. Spur of foretibia short or absent. Cross-vein in both wings straight, situated in centre of eye-spot, the latter round; subcostal of hindwing terminating in outer margin, not at apex as in *Sagana*.

The only species known, *S. medea* Maass., was described as a *Saturnia* on account of its round and ringed eye-spots, but is far removed from *S. pyri* and allies, being a derivation from *Copaxa* confined to the higher altitudes of the Andes. The species varies individually and geographically to a considerable extent.

9A. *S. medea carina* subsp. nov.

♂. The white submarginal band of the forewing above at least 5 mm. wide below M¹, being more than twice the width of the buffish white discal crenate line. Underside of both wings suffused with fuscous and with buffish gallstone-yellow, the grey ground-colour much restricted or entirely suppressed; the black apical spot of the forewing smaller than the ocellus of the hindwing, the submarginal arc situated below it red or reddish, not larger than the black arc following it.

Hab. Various places in Carabaya, South-East Peru, June, September, December, at 9000 and 9500 ft. (G. R. Ockenden); 4 ♂♂.

9B. *S. medea charila* subsp. nov.

♂. Like the preceding, the white submarginal band of both wings rather wider and, moreover, very distinct also on underside. The latter for the greater part greyish white, both wings traversed by a well-marked fuscous band suffused with gallstone-yellow, touching the outside of the ocellus on forewing and running across the ocellus on hindwing; the apical spot of the forewing smaller than the ocellus of the hindwing, the red marking following it represented by an oblique line surrounded with white and anteriorly widened by means of some red dispersed

scales; apical and subapical black and red partitions of submarginal line of hindwing larger than in the preceding race.

Hab. Marcapata, South-East Pern; 1 ♂.

9c. *S. medea miles* subsp. nov.

♂. White submarginal line narrower than in the previous forms; the black apical spot of the forewing larger, especially beneath, where it is at least as large as the black centre of the ocellus of the hindwing. This spot on the *underside* followed by a large red spot; first two red and black partitions of the submarginal line of the hindwing as large as in the preceding race; the submarginal white line of the hindwing distinct, that of the forewing marked only posteriorly; ground-colour whitish grey. Abdomen with a black line at the sides edged with white.

Hab. Rio Blanco, Oroya Railway, West Pern, 12,000 ft. (A. Miles Moss); 1 ♂.

In this specimen the ocellus of the hindwing above has no vitreous dot and the outer border of the submarginal line is pure white from R¹ to anal angle. In a second specimen, from Hnancabamba, to the east of Cerro de Pasco, the ocellus of the hindwing above has a vitreous pupil, the white submarginal line of the forewing, also on upperside, is less than 2 mm. wide and the corresponding line of the hindwing is shaded with red throughout; the underside is suffused with fuscous and red as in the Carabaya form. Moreover, the black lateral line of the abdomen is not edged with white.

9d. *S. medea medea* Maass.

Saturnia medea Maassen, in Stübel's *Reise* p. 133, no. 72, t. 5, fig. 7 (1890).

♂. White submarginal line of forewing above narrow; apical spot small above and beneath. Underside fuscous for the greater part, both wings with a narrow white submarginal line; below apical spot of forewing a narrow white crescent (part of submarginal line) edged with red.

Hab. Ecuador: Pichincha, Riobamba, Huambaya, at higher elevations.

Catharisa gen. nov.

♀. Tongue reduced to two thin separate lobes. Palpi quite short. Shaft of antenna strongly compressed, ventral outline appearing serrate, each segment more than half as wide again in a dorso-ventral direction as in a basi-distal direction; bipectinate, the branches long, slender, curving evenly upwards and then downwards, those of the central segments about as long as five segments. Foretibia with apical thorn as in *Heliconisa* Walk. (1855) and *Coloradia* Blake (1863); spur of inside large, more than half the length of the tibia. Spurs of mid- and hindtibia short, hindtibia with only the apical pair. Forewing with three subcostals, the first from cell, upper radial from angle, second radial much before centre, upper angle of cell about 90°, cross-veins less oblique than in the species of *Heliconisa*. Neuration of hindwing nearly as in *Heliconisa pagenstecheri* Geyer (1837?), but the cell broader at the origin of SC², the cross-vein traversing the ocellus less oblique and nearer to the upper median vein.

One species.

10. *Catharisa cerina* sp. nov.

♀. Uniformly greenish chrome-yellow; antenna ochraceous; tibiae and tarsi smooth, more or less purplish; costal margins and fringes rosy. Forewing with

small diffuse pinkish discocellular spot at lower angle of cell centred with white; distal margin convex. Hindwing with black discocellular ring (diameter $3\frac{1}{2}$ to 4 mm.) encircling a greyish white spot. On *underside* a whitish discocellular spot encircled on both wings by a purplish or blackish ring, which is more or less diffuse and smaller than the one on upperside of hindwing.

Length of forewing: 36 to 38 mm.

Hab. Paragnay; 3 ♀♀.

11. *Rhescyntis polyodonta* sp. nov.

♂♀. Near *Rhescyntis armida* Cr. (1779), of which it may be the West Mexican subspecies. Similar to light-colored specimens of that species, but the forewing shorter and broader and the outer margin of the hindwing in ♂ very obtusely angulate and in ♀ almost evenly rounded. Forewing grey from base to brown discal band; antemedial line more distal than in *R. armida*, incurved in cell and forming a ring with the discocellular bar; discal line, which bounds the brown discal band proximally, slightly excurved between costa and lower median, and then incurved; postdiscal whitish line sharply marked from costal to inner margins and bordered for its whole length on the proximal side by a distinct blackish-brown line; the blackish outer border of the whitish line as in *R. armida*, with this exception that it forms four large teeth between the isabella-colored apical patch and the lower median vein.—On the hindwing the discal line of the ♂ is nearly parallel to the postdiscal triple line, while it is more straight in the ♀; the black teeth of the postdiscal line much larger than in *A. armida*.

♀. Paler than the ♂, the body and the distal marginal border of both wings buff; a costal streak at base of forewing black.

Length of forewing: ♂, 56 mm.; ♀, 56 to 66 mm.

Hab. West Mexico: Cuernavaca, September 1904 (Dr. H. Galow), Tenamastlan in Jalisco, July 1892 (Dr. Buller), and Guerrero (O. T. Baron); 1 ♂ and 4 ♀♀.

12. *Rhescyntis sylla pelias* subsp. nov.

♂♀. Paler than *R. s. sylla* Cr. (1779) and *hercules* Walk. (1855). The buffish white line bordering the brown discal band broader in both wings, which is especially noticeable at the costal margin of the forewing; the marginal area as wide as in *hercules*, being appreciably broader than in *sylla*.

♂. Brown band of forewing 13 mm. wide at lower median vein and the greyish fawn costal area 20 mm.; the walnut-brown streak situated below apex interrupted at R^1 and the black patch between R^1 and R^2 nearly as large as in *hercules*, being larger than in *sylla*. The fawn patches at outside of buffish white line less purplish than in *sylla* and *hercules*. The tail shorter; the brown band of the hindwing 15 mm. wide at the upper radial and the marginal area 14 mm.

♀. Nearly as bright clayish ochraceous as *R. meander* Walk. (1855). Brown discal band of forewing 18 mm. broad at the lower median, the costal area 20 and the marginal area 27; the black patch below apex very large. Brown band of hindwing 9 mm. broad at R^1 and the marginal area 22 mm.; the purplish post-discal patches large, followed by large tawny areas.

Hab. Cuyabá, Matto Grosso (P. Zobrys); one pair.